

Using Medicaid Data for Public Health Research



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Overview

- Getting Medicaid data
- Loading/cleaning Medicaid data
- Using Medicaid data for health research
 - Family planning study
 - Linking Medicaid data with other datasets
 - Future TN dept. Of health projects



What is TennCare?

- Throughout this presentation, TennCare and Medicaid will be used interchangeably
- Tennessee withdrew from federal Medicaid program 1/1/94 and implemented TennCare
 - Managed care system
 - Extends coverage to:
 - Medicaid population
 - Uninsured
 - Uninsurable



I. Getting Medicaid Data



Leadership

- Dr. Fredia Wadley, Commissioner of Health
- Ann Duncan, Asst. Commissioner of Health
- Dr. Richard Urbano, Asst. Commissioner for Health Informatics



Commitment to Research

- CIT
- Data Linkage
- Documentation
- Data Sharing
- Grants
- Computer Infrastructure
- In-House Personnel

Who Has the Data?



- Legal issues



- Personal issues



II. Loading Medicaid Data



Types of Encounter Data

- UB-92 Format (Institutional)
 - Inpatient
 - Outpatient
 - Home Health
 - Rural Health
 - Hospice
- Pharmacy



Types of Encounter Data (cont.)

- HCFA Format (Professional Services)
 - Mental Health
 - Physician/Laboratories
 - Medical Vendor/DME
 - Community Health
 - Ambulance
- Dental



Breakdown of 1 month (MCO)

Claim Type	n	%
<i>Pharmacy</i>	2,631,413	60.9
<i>Physicians/Labs</i>	1,195,664	27.7
<i>Outpatient</i>	198,616	4.6
<i>Dental</i>	147,267	3.4
<i>Ambulance</i>	60,992	1.4
<i>Medical Vendor/DMS</i>	34,161	0.8
<i>Inpatient</i>	22,750	0.5
<i>Community Health</i>	17,550	0.4
<i>Home Health</i>	8,555	0.2
<i>Hospice</i>	540	0.0
<i>Mental Health</i>	261	0.0
<i>Rural Health</i>	8	0.0
	4,317,777	100



Mainframe Issues

- 170 Gigabytes of raw data
 - Cartridge
 - EBCDIC
 - Variable Length
 - 1,009 – 6,518 bytes per record
 - Packed Decimals
 - Control characters (Hex 00, 03, 04, 1A)
- Data dictionary provided for 46% (113/244) of fields



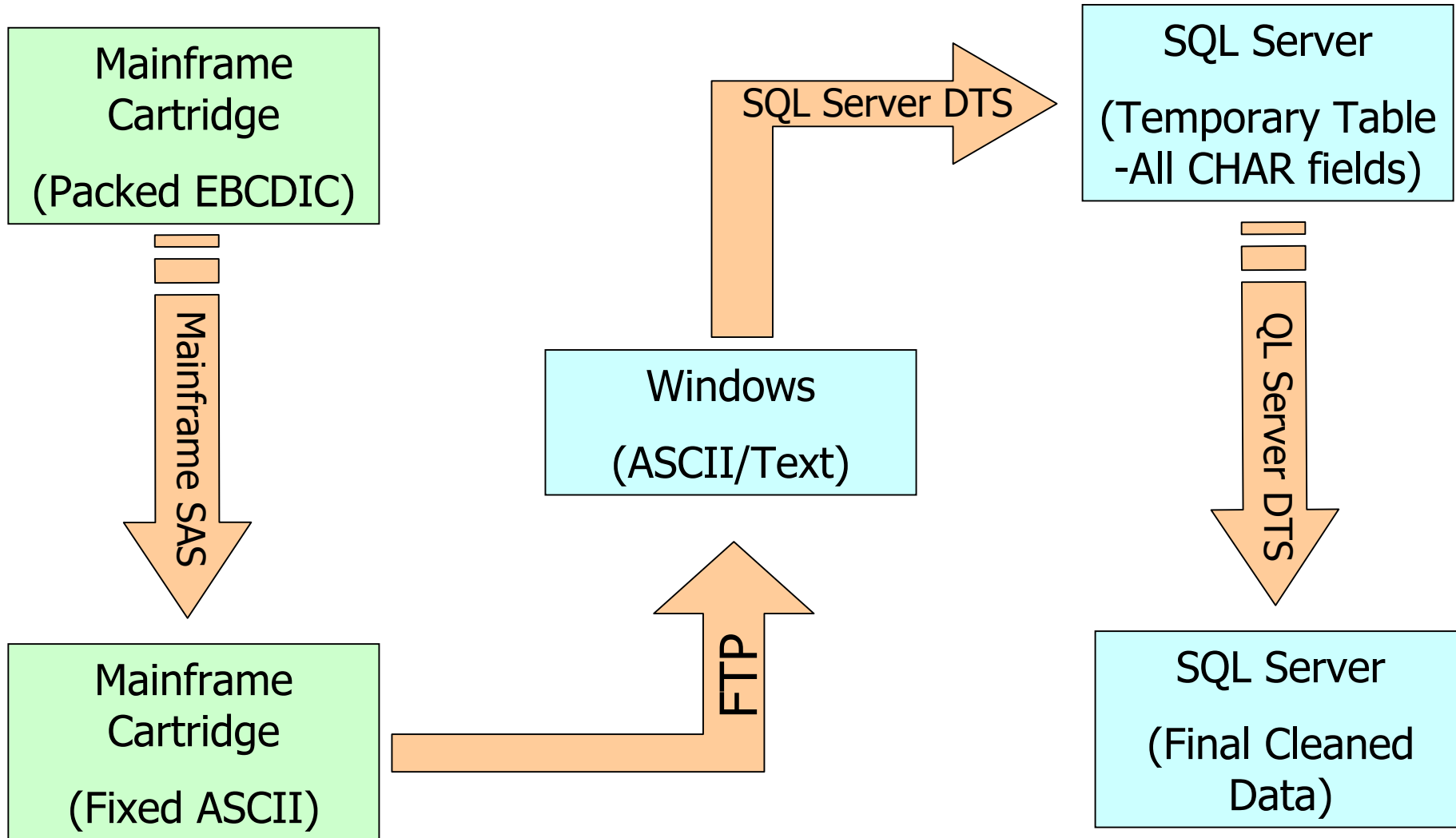
Mainframe Issues (cont.)

- Unpacking and moving data onto the PC
 - PC-SAS v8.2
 - FILENAME FTP access method
 - Preprocess file with IEBGENER
 - Vedit \$744
 - Unpack and create fixed width ASCII
 - NovaXchange \$795
 - Read cartridges directly into PC
 - Mainframe SAS
 - Unpack and create fixed width ASCII

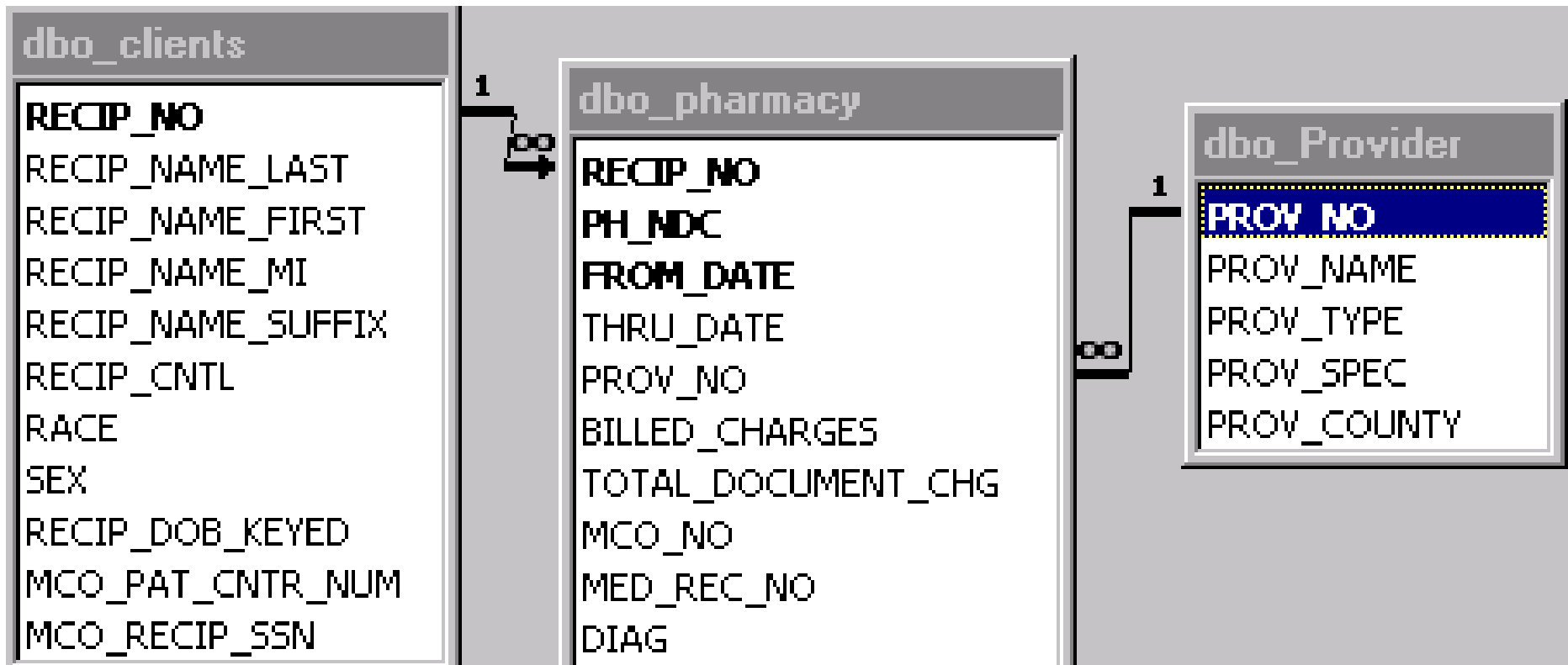


PC/Windows Issues

- Hardware concerns
 - Hard drive space
 - Multiple processors
 - Local back-up device
- Database concerns
 - Enterprise database engine
 - e.g., SQL Server; Oracle
 - Database administrator
 - Programming
 - Maintenance



Relational Database Design

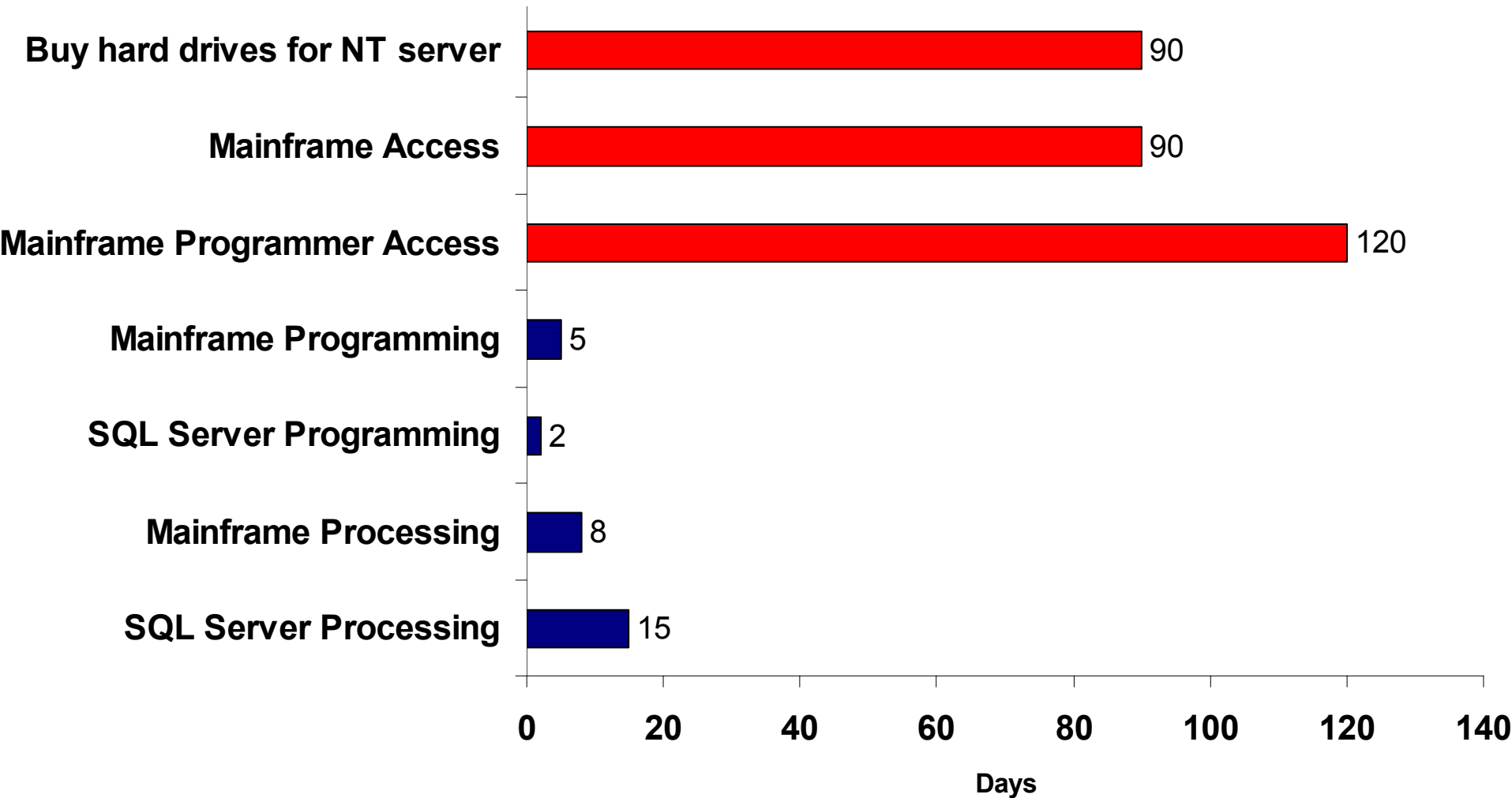




TennCare Database Size

Table Name	Rows	Size
<i>Clients</i>	1,593,237	215 Mb
<i>Providers</i>	20,945	1 Mb
<i>Pharmacy</i>	56,941,533	13.5 Gb
<i>Professional</i>	20,462,048	5.1 Gb

Timeline For Pharmacy Data Load





A Better Solution. . .

Mainframe
Cartridge
(Packed EBCDIC)



SQL Server
(Final Cleaned
Data)



III. Using Medicaid Data

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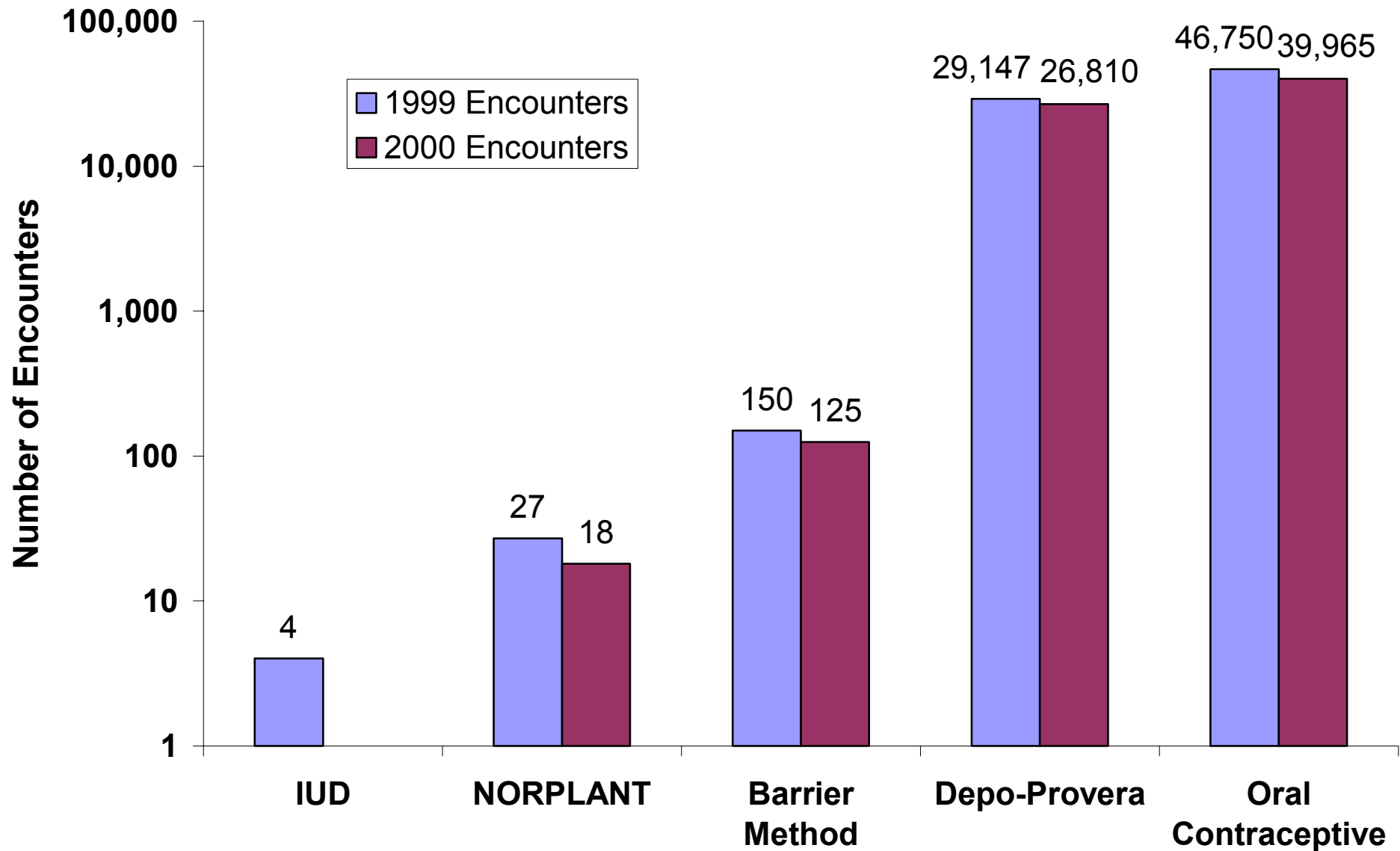
Margaret F. Major, MPH



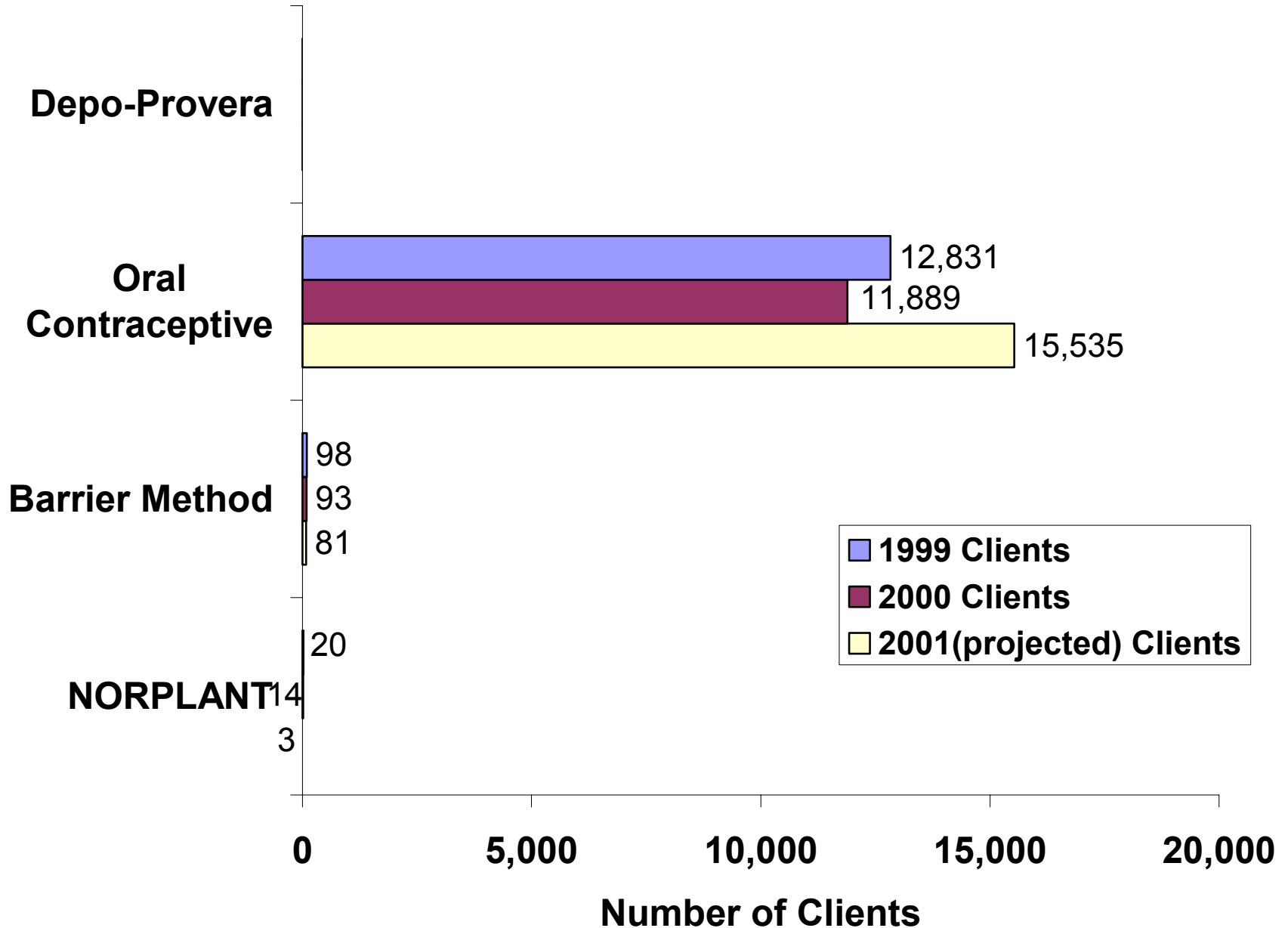
Family Planning Sample

- All family planning pharmacy encounters between 1/1/99 and 5/30/01
- 49,390 women, 241 men (!)
- 65% white, 29% black, 6% all other
- 195,649 encounters
- 1,019 unique providers (82% unknown)

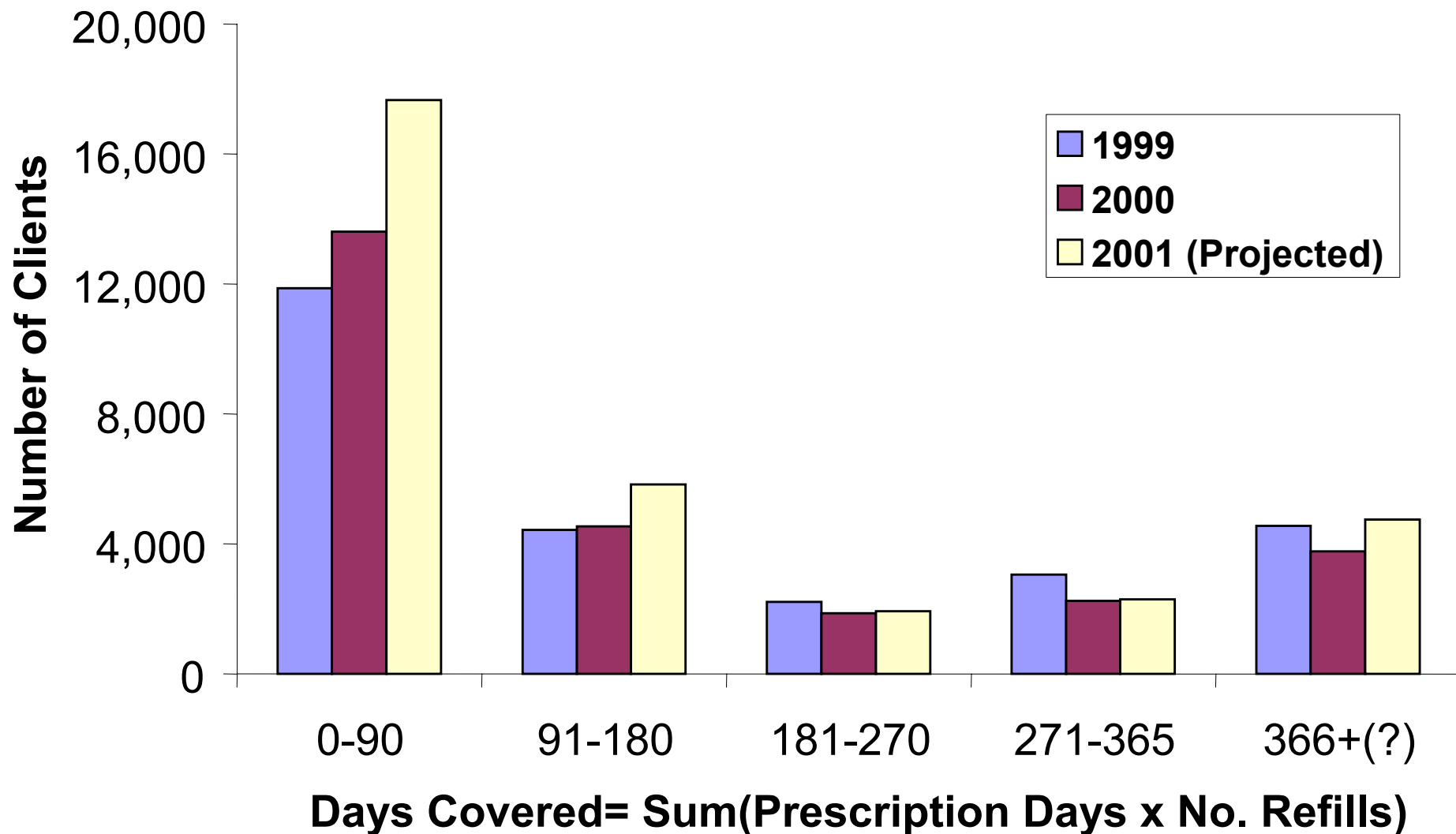
TennCare Encounters by Family Planning Method, 1999-2000



TennCare Clients by Type of Family Planning Encounter, 1999-2001

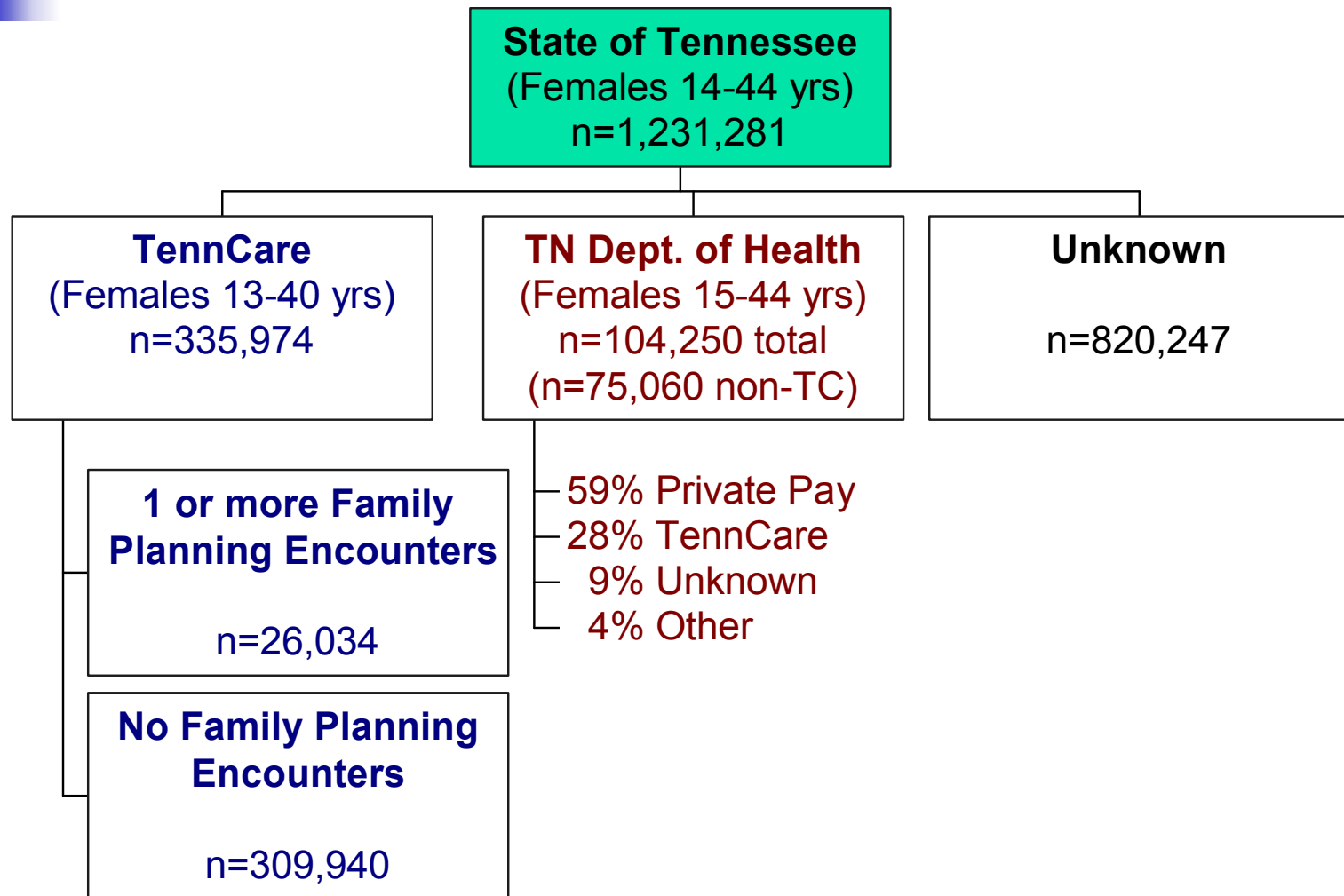


TennCare Clients by Days of Family Planning Coverage, 1999-2001





Family Planning in Tennessee





Immediate Projects

- Children's Information Tennessee (CIT)
 - Document which providers are actually seeing TennCare patients in TN
- Data Utilization and Enhancement (DUE) Grant
 - Impact of CIT on children with asthma
- HIV/AIDS Reporting and Surveillance
 - Case finding based on ICD code or pharmacy claim



Long Term Goals

- Load additional datasets on the server and link to TennCare data
 - Birth/Death Certificates (on mainframe)
 - WIC data (received '75-'01 from CDC)
 - Hospital Discharge (on mainframe)
- Chronic Disease Surveillance
 - Passive
 - No funding at this time ☹️
- Family Planning Study



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